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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/666,757	09/21/2000	William S. Yerazunis	MERL-1274	8924

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Patent Department
Mitsubishi Electric Research Laboratories Inc
201 Broadway
Cambridge, MA 02139

EXAMINER	
TRAN, TRANG U	

ART UNIT	PAPER NUMBER
2614	13

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/666,757	Applicant(s) YERAZUNIS ET AL.	
	Examiner Trang U. Tran	Art Unit 2614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 February 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-7 and 9* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7 and 9* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on February 23, 2004 has been entered.

Response to Arguments

2. Applicant's arguments filed February 23, 2004 have been fully considered but they are not persuasive.

In re page 5, applicants argue that Abali never predicts movement of the display device. The predictive controller as claimed predicts movement before it happens. Abali therefore fails to describe, teach, suggest or show anticipating movement of the display device.

In response, the examiner respectfully disagrees. As discussed in the Final Office Action, it is noted that the alleged "predicts movement before it happens" is not recited in the claim. The specification is not the measure of invention. Therefore, limitations contained therein can not be read into the claims for the purpose of avoiding the prior art. In re Sporck, 55 CCPA 743, 382 F.2d 924, 155 USPQ 687 (1968).

Abali discloses in column 2, lines 1-15 that:

> "In the first aspect of the present invention, a motion compensating apparatus for a display device having a display screen, **includes a device for**

sensing a movement of the display device, and a device for compensating for movement of the display device such that an image on the display screen of the display device remains substantially stationary in relation to an observers' gaze.

In the second aspect of the present invention, **a method of compensating for motion of an image on a display device having a display screen, includes sensing a movement of the display device, and compensating for movement of the display device** such that an image on the display screen of the display device remains substantially stationary in relation to an observers' gaze."

Additionally, Abali discloses in column 6, lines 14-64 that:

"In another embodiment of the invention, as show in Fig. 6B, the analog signal V_displacement may be converted to a digital signal by an Analog-to-Digital Converter (ADC) 60, **an ADC may be provided to correspond to a respective sensor, or alternatively a single ADC could be provided to receive the signals in a multiplex fashion**, then, the digital signal becomes available to the system software, called a graphics driver 61 that controls the display 10, as show in Fig. 6B, the graphics driver 61 feeds the digital signal to the video processing circuitry 62 of **the computer which will shift the image by necessary amounts."**

From the above passage, it is clear that Abali predict the movement of the display device **(takes as input a digital displacement signal from the sensors)** and compensating for the movement of the display device (**the video processing circuitry 62 of the computer which will shift the image by necessary amounts**) as recited in claim 1.

In re page 7, applicants argue that Abali cannot be combined with Kerr. Abali stabilizes an output signal, while Kerr stabilizes an input signal. There is no evidence that Kerr's input signal is equivalent in any way to Abali's output signal.

In response, the examiner respectfully disagrees. As discussed in the Final Office Action, the examiner has pointed out what each of the prior art references teaches and has indicated how and why these references would have been combined

to arrive at the claimed invention. Applicants cannot show non-obviousness by attacking the references individually where, as here, the rejection is based on a combination of references. In re Keller, 642 F.2d 413, 208 USPQ 871 (CCPA 1981). As discussed in the Final Office Action, Kerr et al teach that the gain controller (AGC 142, Fig. 6, col. 7, lines 1-22) and the band-pass filter (Fig. 7, col. 7, line 67 to col. 8, line 55). Abali discloses in column 1, lines 45-60 that "such a system for a video recording device is cannot be incorporated in a display device **unless the display device is equipped with a fixed camera that can record the display device's motion and infer from the recorded image the displacement in two dimensions**. Hitherto, the invention such a technique has not been performed in which motion is deduced directly for a display device being physically vibrated or moved. From the above passage, it is clear that Abali provide a method and apparatus for improving the conventional recording system. Thus, one of ordinary skill in the art would motivate to combine the references as proposed by the Examiner for improving the conventional recording system.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-5 are rejected under 35 U.S.C. 102(e) as being anticipated by Abali et al. (US Patent No. 6,317,114 B1).

In considering claim 1, Abali et al discloses all the claimed subject matter, note 1) the claimed a first and second accelerometers mechanically coupled to the display screen is met by the horizontal and vertical sensors 41V, 41H (Fig. 6A, col. 4, lines 40-55 and col. 5, lines 23-46), 2) the claimed a first and second compensation circuits to convert acceleration in horizontal and vertical directions respectively to x- and y-compensation signals is met by the horizontal and the vertical motion sensing circuits 42 (Fig. 6A, col. 5, lines 23-46), 3) the claimed first and second adders combining the x- and y-compensation signals with the horizontal and vertical display signals to dynamically adjust a location of the image on the display screen while the display device is subject to movement is met by the horizontal direction signal and the vertical direction signal circuits 50H and 50V (Fig. 6A, col. 5, line 23 to col. 6, line 14), and 4) the claimed a predictive controller to anticipate the movement is met by the graphics driver 61 (Fig. 6B, col. 6, lines 20-38).

In considering claim 2, the claimed wherein the display screen is a cathode ray tube and the compensation circuits operate in an analog mode is met by the analog signal may be directly fed to the cathode ray tube (CRT) circuitry 100 (Fig. 6A, col. 5, lines 30-65).

In considering claim 3, the claimed wherein the display signals are deflection signals for the cathode ray tube is met by the sawtooth waveform (col. 5, line 50 to col. 6, line 14).

In considering claim 4, the claimed wherein the display screen is a digital screen is met by computer display 10 (Fig. 6B, col. 6, lines 14-26).

In considering claim 5, the claimed wherein the display signals are address signals for a frame buffer of the digital screen is met by a Screen Start Address register which specifies the location in display memory where data to be displayed begins (Fig. 6B, col. 6, lines 14-53).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 6-7 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Abali et al. (US Patent No. 6,317,114 B1) in view of Kerr et al. (US Patent No. 4,916,536).

In considering claim 6, Abali et al discloses all the claimed subject matter, note 1) the claimed wherein each compensation circuit further comprises: a first and second integrator to convert acceleration to position is met by the horizontal and the vertical motion sensing circuits 42 (Fig. 6A, col. 5, lines 23-46). However, Abali et al explicitly does not disclose the claimed at least one band-pass filter. Kerr et al teach that the signal that is output from the divider 182, is then filtered by third bandpass filter 184 or fourth bandpass filter 186, depending on whether the output is intended for viewing by human observers or machine vision (Fig. 7, col. 7, line 67 to col. 8, line 55). Therefore, it

would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the bandpass filter as taught by Kerr et al into Abali et al's system in order to efficiency the bandwidth conservation.

In considering claim 7, the claimed wherein a low frequency cut-off of the band pass filter is less than one half cycle per second, and a high frequency cut-off is less than a refresh rate of the display screen is met by the bandpass filter 186 (Fig. 7, col. 8, lines 22-55).

In considering claim 9, Abali et al disclose all the limitations of the instant invention as discussed in claim 1 above, except for providing the claimed wherein each compensation circuit includes a gain control circuit. Kerr et al teach that the received signal is then directed to an automatic gain control device (AGC) 142, device 142 measures intensity and outputs intensity signal 143 (Fig. 6, col. 7, lines 1-22). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the compensation circuit includes a gain control circuit as taught by Kerr et al into Abali et al's system in order to increase the quality of the video signal by controlling the gain of the system at standard picture frame frequencies.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Trang U. Tran** whose telephone number is **(703) 305-0090.**

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **John W. Miller,** can be reached at **(703) 305-4795.**

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

TT
May 16, 2004

TRANG TRAN
PATENT EXAMINER